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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/538,030	03/29/2000	Peter John Turley	PD-990167	7475
22462	7590	06/01/2005	EXAMINER PHUONG, DAI	
GATES & COOPER LLP HOWARD HUGHES CENTER 6701 CENTER DRIVE WEST, SUITE 1050 LOS ANGELES, CA 90045			ART UNIT 2685	PAPER NUMBER

DATE MAILED: 06/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/538,030

Applicant(s)

TURLEY ET AL.

Examiner

Dai A Phuong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6-10 is/are allowed.
- 6) ☒ Claim(s) 1-5, 11 and 12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5 and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lazaris-Brunner et al. (U.S. 6,408,164) in view of Acompora et al. (U.S. 4,425,639).

Regarding claim 1, Lazaris-Brunner et al. disclose a switch matrix for coupling an uplink beam to a demodulator, comprising: an input module 22, the input module having a plurality of inputs at least equal to a number of cells (col. 5, lines 48-58), the inputs receiving at least one uplink beam and a plurality of outputs (col. 5, lines 17-20), the plurality of outputs at least equal to a number of subbands in the uplink beam (col. 5, lines 59-67); and an output module, the output module coupled to the input module (col. 6, lines 11-21), for selectively coupling the outputs from the input module to an output of the output module, the output of the output module coupled to a demodulator thereto (col. 2, lines 28-32) and (col. 6, lines 10-64). But, Lazaris-Brunner et al. do not disclose a switch matrix for coupling an uplink beam to a demodulator, comprising: the input module having a plurality of inputs at least equal to a number of cells in a reuse pattern.

In the same field of endeavor, Acompora et al. disclose a switch matrix for coupling an uplink beam to a demodulator, comprising: the input module having a plurality of inputs at least equal to a number of cells in a reuse pattern (col. 2, lines 39-49col. 4, lines 21-27).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the digital satellite of Lazaris-Brunner et al. by specifically including the input module having a plurality of inputs at least equal to a number of cells, as taught by Acompora et al., the motivation being in order to provide mutual spatial isolation of their signal.

Regarding claim 2, the combination of Lazaris-Brunner et al. and Acompora et al. disclose all the limitation in claim 1. Further, Lazaris-Brunner et al. disclose the switch matrix wherein the output module is directly coupled to the input module (col. 6, lines 3-21).

Regarding claim 3, the combination of Lazaris-Brunner et al. and Acompora et al. disclose all the limitation in claim 1. Further, Lazaris-Brunner et al. disclose the switch matrix wherein the input module comprises redundant modules (col. 8, lines 36-53).

Regarding claim 4, the combination of Lazaris-Brunner et al. and Acompora et al. disclose all the limitation in claim 1. Further, Lazaris-Brunner et al. disclose the switch matrix wherein the input module accepts uplink beams of different polarizations (col. 5, lines 17-47).

Regarding claim 5, the combination of Lazaris-Brunner et al. and Acompora et al. disclose all the limitation in claim 4. Further, Lazaris-Brunner et al. disclose the switch matrix wherein the input module accepts uplink beams of a single polarization (col. 5, lines 17-47).

Regarding claim 11, Lazaris-Brunner et al. disclose a method for switching uplink signals through a switch matrix in a satellite system, the uplink signal generated by a cell-based transmission matrix, and the uplink signal comprises subband signals (col. 5, line 59 to col. 6, line 19), comprising: grouping the uplink signals into a plurality of groups, the number of groups at least equal to a number of cell-reuse patterns of the cell-based transmission matrix (col.

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4, line 66 to col. 5, line 16); separating each group of uplink signals into subband signals (col. 6, lines 3-36); grouping similar subband signals from the groups of uplink signals to produce groups of similar subband signals (col. 6, lines 3-36); and forwarding the groups of similar subband signals to demodulators for processing within the satellite system (col. 2, lines 16-32) and (col. 6, lines 21-64).

In the same field of endeavor, Acompora et al. disclose wherein a frequency reuse pattern is used throughout the cell matrix and each group comprising a signal from each frequency used in the frequency reuse pattern (col. 2, lines 39-60).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the digital satellite of Lazaris-Brunner et al. by specifically including a frequency reuse pattern is used throughout the cell matrix and each group comprising a signal from each frequency used in the frequency reuse pattern, as taught by Acompora et al., the motivation being in order to provide mutual spatial isolation of their signal.

Regarding claim 12, the combination of Lazaris-Brunner et al. and Acompora et al. disclose all the limitation in claim 11. Further, Lazaris-Brunner et al. disclose the method wherein the uplink signals comprise signals of different polarizations (col. 5, lines 17-47).

Reasons for allowance

3. The following is an examiner's statement of reasons for allowance:

Claims 6-10 are allowed.

Claims 7-10 are allowed as being depended on independent claim 6.

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The following is a statement of reasons for the indication of allowable subject matter: the prior art made of record and considered pertinent to the application's disclosure does not disclose nor fairly suggest the method for switching uplink signal through a switch matrix in a satellite system: **a plurality of power splitters, wherein the plurality of power splitter is at least equal to the number of cells in the reuse pattern for the satellite system, wherein each power splitter splits each input into a plurality of substantially equal power outputs, a number of power outputs at least equal to a number of subbands used by the satellite system.**

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Meredith (U.S. 6006113) radio signal scanning

Black et al. (U.S. 6377561) data communication satellite

Reudink et al. (U.S. 6198435) improve trunking efficiency

Mandell et al. (U.S. 6259899) analysis of intermodulation dispersion

Cooperman et al. (U.S. 6643294) merged buffer ATM switch

Patterson et al. (U.S. 5736959) scanning beam antennas

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dai A Phuong whose telephone number is 571-272-7896. The examiner can normally be reached on Monday to Friday, 9:00 A.M. to 5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on 703-305-4385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.


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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dai Phuong

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Date: 05-12-2005



W. R. YOUNG
PRIMARY EXAMINER